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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/764,366	01/18/2001	Ulrich A. Muller	10366-014	7123
20583	7590	03/25/2005	EXAMINER	
JONES DAY 222 EAST 41ST ST NEW YORK, NY 10017			PATEL, JAGDISH	
			ART UNIT	PAPER NUMBER
			3624	
DATE MAILED: 03/25/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/764,366

Applicant(s)

MULLER ET AL

Examiner

JAGDISH PATEL

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/18/01 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC §101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requires of this title.

2. Claims 1-38 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims Not Within Technological Arts

2.1 The following analysis is applicable to claims 1-19.

The invention as recited in the claims is merely an abstract idea that is not within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful arts" (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter.

The examiner presents the following rulings in support of the aforementioned analysis.

The phrase "technological arts" is synonymous with the phrase "useful arts" as it appears in Article I, Section 8 of the Constitution, *In re Waldbaum*, 167 USPQ 280 (CCPA 1970) and *In re Johnston*, 183 USPQ 172 (CCPA 1974).

More recent ruling by the U.S. Patent and Trademark Office, Board of Patent Appeals and Interferences (*Ex Parte Bowman*, 61 USPQ2d 1669) also supports the assertion that an invention must "promote the progress of science and the useful arts" and that the invention must fall within the definitions of technological arts in order to be statutory under 35 U.S.C. 101.

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Note that the Bowman ruling cannot be used as a precedent but cited for its analysis of the claims for patentability under 35 U.S.C. 101.

Note that although the claim recites “computer-readable medium” the act of storing in steps (d) and (f) is treated as manual process, e.g. manually entering data in a computer database located in a hard drive). In order to be within technological arts, the claim must utilize technology in a non-trivial manner (i.e. at least one the inventive feature must be recited within technological art) . Mere data gathering data via a communication network or storing data in a computer readable medium does not render the claim as a whole in technological art because the critical limitations are not positively recited as having any use of technology.

In order to overcome this rejection, the aforementioned limitations must be recited as being performed by a server or a processor.

This analysis is exemplary for all method claims 1-19.

2.1 Claims directed to Non-Functional Descriptive Material

Claims 20-38 are rejected as being directed to computer software or computer program (versus a computer-readable medium having stored instructions or computer code executable by a computer performing the process steps). Computer software, even if stored on a computer-readable medium is nothing more than non-functional descriptive material.

Descriptive material can be characterized as either “functional descriptive material” or “non-functional descriptive material.” In this context, “functional descriptive material” consists of data structures and computer programs, which impart functionality when encoded on a computer-readable medium. “Non-functional descriptive material” includes but is not limited to music, literary works and a compilation or mere arrangement of data.

Both types of “descriptive material” are non-statutory when claimed as descriptive material per se. When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases. When non-functional descriptive material is recorded on some computer-readable

medium, it is not structurally and functionally interrelated to the medium but is merely carried by the medium. Merely claiming non-functional descriptive material stored in a computer-readable medium does not make it statutory. Such a result would exalt form over substance. Thus, non-statutory music does not become statutory by merely recording it on a compact disk. {FN70: 61 Fed. Reg. at 7481}

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites functional steps of storing asset price data, current system position information and quote request information and storing calculated target position. However, the claimed invention is carried out irrespective of the storing of the aforementioned parameters, i.e. the calculating bid/ask does not relate to the storing steps.

Claim 1 recites “for each of one or more trading models” which lacks proper antecedent basis in the parent claim 1 as “one or more trading models” are not provided or defined in any prior steps.

Claim 3 recites “positions of said trading models” which lack antecedent basis in the parent claim 1 which recites “one or more trading models”

Claims 3-19 recite that said calculation of a bid/ask quote is based on a weighted sum and hedging method. However, this contradicts with recitation of claim 1 that the calculation of a bid/ask quote is based on the asset price data, quote request information, current system position

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information and target position information. This renders the claims unclear as to the scope of bid/ask quote calculation.

Dependent claims and Computer program claims also contain similar deficiencies as respective method claims.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the second paragraph of 35 U.S.C. 102:

A person shall be entitled to a patent unless--

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371 (c) of this title [35 USC §371(c)(1), (2), (4)] before the invention thereof by the applicant for patent

6. Claims 1-2 and 20-21 are rejected as being anticipated by Rikard et al. (US Pat. 6,16,483) (Rickard)

As per claim 1, Rickard teaches a method of market making in an asset trading system, comprising the steps of: **(a)** receiving asset price data; (col. 8 L 13-16 information received from exchange 12, information to control the operation of the controller 2 which determines option price); **(b)** receiving current system position information; (col. 8 L 26-31 At the market maker terminals 4-10, market makers can input their orders, their current position) ; **(c)** receiving quote request information; (col. 8 L 18-21, Information about public orders can be input to the controller 2 from an order entry system 14.); **(d)** storing said received asset price data, said received current system position information, and said received quote request information in a computer-readable medium; (col. 8 L 47-52, The storage device 3 can comprise a database for storing information received from the market makers and for storing the results of processing by the controller 2.); **(e)** calculating target position information for each one or more trading models

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(col. 6 L 34-40 Each market maker comes to the opening with his or her own current position (as specified by delta and gamma) and his or her desired target position after the opening (as specified by delta and gamma). The desired target position may be dependent upon the absolute and relative values of implied volatilities determined at the opening. In view of col. 3 L 36-43, see list of pricing models used by market makers to calculate a target (theoretical) price)

(f) storing said calculated target position information in a computer-readable medium; (col. 8 L 47-52, The storage device 3 can comprise a database for storing information received from the market makers and for storing the results of processing by the controller 2.)

and (g) calculating a bid/ask quote in response to said received quote request information, said calculation of a bid/ask quote being based on said asset price data, said quote request information, said current system position information, and said target position information. (col. 9 L 4-8, "set of prices for each series")

Claim 2: A method as in claim 1, wherein each of said one or more trading models comprises:

(a) a price collector component; (b) a price filter component; (c) a price database component; (d) a gearing calculator component; (e) a deal acceptor component; (f) an opportunity catcher component; and (g) a book-keeper component.

(the trading models comprises a price component, see col. 3 L 28-44 "underlying security price")

Claims 20 and 21 correspond to method claims 1 and 2 respectively are rejected accordingly.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 USC 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rickard as applied to claim 1 above, and further in view of Official Notice.

Rickard fails to teach that the bid/ask quote is based on a weighted sum of positions of the trading models.

Official notice is taken that using weighted sum of individual constituent variables to determine an average (weighted average) is old and well known in finance and trading.

It would have been obvious to one of ordinary skill in the art at the time of the invention to calculate bid/ask based on a weighted sum of positions of trading models because weighted average provides a more reliable measure of the quote under varying conditions since it takes into consideration fractions of different models.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

MADOFF et al. (US 2002/0019795) teaches a method of determining an opening price for a product traded in a trading system, includes receiving orders for the product, each order specifying a quantity and whether the order is a buy or sell order, determining an imbalance condition between received buy orders and received sell orders for the product and posting an allocation message to market maker participants to communicate an expected allocation of the

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imbalance for execution at an initial opening of the market in the event that the imbalance exists at the opening.

ATKINS (US 5,911,136) discloses a personal financial management program is for implementing, coordinating, supervising, analyzing and reporting upon investments in an array of asset accounts and credit facilities within a client account. Through a mathematical programming function the client specifies his financial objectives, his risk preference, forecast of economic and financial variables, and budgetary constraints. The mathematical programming function suggests to the client a portfolio of investment and credit facilities to best realize his financial objectives over a defined time horizon.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAGDISH PATEL whose telephone number is (703)308-7837. The examiner can normally be reached on 800AM-600PM M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent Millin can be reached on (703)308-1065. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jagdish N. Patel

(Primary Examiner, AU 3624)

10/2/05 3/21/05